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KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
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**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

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13 January 2005

**(15) Information about Correction:**

**Previous Correction:**

see PCT Gazette No. 45/2004 of 4 November 2004, Sec-  
tion II

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: A METHOD FOR MODULATING NOD1 ACTIVITY, USE OF A MTP RELATED MOLECULE FOR MODULATING NOD1 ACTIVITY, AND THERAPEUTIC APPLICATIONS THEREOF

(57) Abstract: A method for modulating Nod1 activity wherein said method comprises the steps of providing cells expressing a functional Nod1; and bringing said cells into contact with a molecule related to compositions comprising a molecule related to MTP and use of a molecule related to MTP for modulating inflammation and/or apoptosis.

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB2004/001318

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G01N33/53 G01N33/567 G01N33/68 C07K14/47 C07K5/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G01N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GIRARDIN STEPHEN E ET AL: "Nod2 is a general sensor of peptidoglycan through muramyl dipeptide (MDP) detection." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 278, no. 11, 14 March 2003 (2003-03-14), pages 8869-8872, XP002288593 ISSN: 0021-9258 Abstract; Fig. 1d. ----- -/--	1-5, 24, 26-34

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

26 July 2004

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18. 11. 2004

Name and mailing address of the ISA

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB2004/001318

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>INOHARA NAOHIRO ET AL: "Human Nod1 confers responsiveness to bacterial lipopolysaccharides" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 276, no. 4, 26 January 2001 (2001-01-26), pages 2551-2554, XP002259976 ISSN: 0021-9258 cited in the application Abstract; Fig. 1, p. 2552, col. 2, l. 6-9.</p>	1-5,24, 26-34
A	<p>UEHARA TSUYOSHI ET AL: "Identification of MpaA, an amidase in Escherichia coli that hydrolyzes the gamma-D-glutamyl-meso-diaminopimelate bond in murein peptides." JOURNAL OF BACTERIOLOGY, vol. 185, no. 2, January 2003 (2003-01), pages 679-682, XP002288592 ISSN: 0021-9193 Abstract.</p>	1-5,24, 34
A	<p>US 2002/197693 A1 (BERTIN JOHN) 26 December 2002 (2002-12-26) paragraphs '0009!, '0260!; claim 15</p>	1-5,24, 26-34
P,X	<p>JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 278, no. 43, 24 October 2003 (2003-10-24), pages 41702-41708, XP002288595 ISSN: 0021-9258 Abstract; Fig. 3.</p>	1-5,24, 26-34

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/IB2004/001318

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002197693 A1	26-12-2002	US 6369196 B1	09-04-2002
		US 6469140 B1	22-10-2002
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		US 6410689 B1	25-06-2002

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2004/001318

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-8, 15, 16, 18-20, 23 and 26-33 (partially)  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1-5, 24, 26-34

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.1

Although claims 1-8, 15, 16, 18-19 and 23 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Although claims 20, 26-33 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

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Continuation of Box II.1

Claims Nos.: 1-8, 15, 16, 18-20, 23 and 26-33 (partially)

Claims 1-8, 15, 15, 18-19 and 23: Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

Claims 20 and 26-33: Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5, 24, 26-34

Methods for modulating NOD1 activity by expressing Nod1 in a eukaryotic cell and bringing said cell into contact with a molecule related to muramyl tripeptide; and related methods based on the interaction NOD1 and muramyl tripeptide as well as the compositions comprising Nod1 and muramyl tripeptides.

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2. claims: 6-8, 20, 25 (complete), 11 (partially)

Methods for treating or detecting inflammation processes using muramyl tripeptides.

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3. claims: 9, 10

Muramyl tripeptide.

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4. claims: 11 (partially), 12-19 (complete)

Use of muramyl tripeptide as adjuvant.

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5. claim: 21

Method for screening a molecule comprising expression of Nod1 in a cell, contacting said cell with the compound and measuring the activation of NF-kappaB or IL-8.

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